

هيئة التقييس لدول مجلس التعاون لدول الخليج العربية
GCC STANDARDIZATION ORGANIZATION (GSO)

مشروع نهائي

GSO 05/FDS/ ISO 11178:20١٠ (E)
ISO 11178:1995

التوابل والبهارات – اليانسون النجمي - المواصفات
Spices and condiments – Star anise (*Illicium verum* Hook. f.)
– Specification

إعداد
اللجنة الفنية الخليجية لقطاع المواصفات الغذائية والزراعية

هذه الوثيقة مشروع لمواصفة قياسية خليجية تم توزيعها لإبداء الرأي والملاحظات بشأنها، لذلك فإنها عرضة للتغيير والتبديل، ولا يجوز الرجوع إليها كمواصفة قياسية خليجية إلا بعد اعتمادها من مجلس إدارة الهيئة.

ICS:67.220.10

تقديم

هيئة التقييس لدول مجلس التعاون لدول الخليج العربية هيئة إقليمية تضم في عضويتها الأجهزة الوطنية للمواصفات والمقاييس في دول الخليج العربية، ومن مهام الهيئة إعداد المواصفات القياسية الخليجية بواسطة لجان فنية متخصصة.

وقد قامت هيئة التقييس لدول مجلس التعاون لدول الخليج العربية ضمن برنامج عمل اللجنة الفنية رقم 5 "اللجنة الفنية الخليجية لقطاع المواصفات الغذائية والزراعية" بتبني المواصفة القياسية الدولية رقم ISO 11178:1995 "التوابل والبهارات – اليانسون النجمي – المواصفات" والتي أصدرتها "منظمة التقييس الدولية" وتمت ترجمتها إلى اللغة العربية. وقامت دولة الإمارات العربية المتحدة بإعداد مشروع هذه المواصفة.

وقد اعتمدت هذه المواصفة كـ (مواصفة قياسية / لائحة فنية) خليجية دون إدخال أية تعديلات فنية عليها وذلك في اجتماع مجلس إدارة الهيئة رقم ()، الذي عقد بتاريخ / / هـ، الموافق / / م.

Foreword

GCC Standardization Organization (GSO) is a regional Organization which consists of the National Standards Bodies of GCC member States. One of GSO main functions is to issue Gulf Standards /Technical regulations through specialized technical committees (TCs).

GSO through the technical program of committee TC No.:5 "Gulf technical committee for standards of food and agriculture products". Has adopted the international standard No. ISO 11178:1995 "Spices and condiments – Star anise (*Illicium verum* Hook. f.) – Specification " issued by International Organization for Standardization which has been translated into Arabic. The Draft Standard has been prepared by United Arab Emirates.

This standard has been approved as a Gulf (Standard / Technical Regulation) without any technical modifications by GSO Board of Directors in its meeting No. (), held on / / H, / / G.

Spices and condiments – Star anise (*Illicium verum* Hook. f.) - Specification

1. Scope

This Gulf Standard specifies requirements for the dried fruits of the star anise tree (*Illicium verum* Hook. f.).

Recommendations relating to the conditions of storage and transport are given in annex B.

2. Normative references

- 2.1 GSO ISO 927, Spices and condiments — Determination of extraneous matter content.
- 2.2 GSO ISO 928, Spices and condiments — Determination of total ash.
- 2.3 ISO 939, Spices and condiments — Determination of moisture content – Entrainment method.
- 4.2 GSO ISO 948 : " Spices and condiments — Sampling .
- 2.5 GSO ISO 6571, Spices , condiments and herbs — Determination of volatile oil content.
- 2.6 GSO 9, Labeling of Prepackaged Foodstuffs.

3. Description (see figures 1 and 2)

Star anise is the dried mature fruit of the evergreen tree *Illicium verum* Hook. f., of the family *Illiciaceae*.

The fruit usually comprises eight boat-shaped follicles, each 12 mm to 15 mm in length, arranged radially around a central stalk.

4. Requirements

4.1 Colour

The colour of star anise shall be brownish red or reddish brown.

4.2 Odour and flavour

Star anise has a characteristic odour and an aromatic, sweet and anise-like flavour.

4.3 Freedom from insects, moulds:

Star anise shall be free from living insects and shall be practically free from moulds, dead insects, insect fragments and rodent contamination visible to the naked eye (corrected, if necessary, for abnormal vision) or with such magnification as may be necessary in any particular case. If the magnification exceeds x 10, this fact shall be mentioned in the test report.

4.4 Extraneous matter

For the purposes of this Gulf Standard, all that does not belong to the star anise fruit and all other extraneous matter of animal, vegetable or mineral origin shall be considered as extraneous matter.

The total percentage of extraneous matter in star anise shall not be more than 2 % (m/m). The proportion of stalks shall not be more than 3 % (m/m) when determined by the method specified in GSO ISO 927.

4.5 Broken and abnormal fruits

Broken fruits are classed as fruits which contain fewer than five follicles, while abnormal or undeveloped fruits are categorized as those containing three or more under-developed follicles. The Proportion of broken and abnormal fruits shall not be more than 25 % (m/m) when tested by the method specified in annex A.

4.6 Number of fruits per 100 g

The number of star anise fruits shall not be less than 130 per 100 g when tested by the method specified in annex A.

4.7 Chemical requirements

Star anise shall comply with the requirements specified in table 1 when tested by the specified method.

Table 1 - Chemical requirements of star anise

Characteristic	Requirement	Test method
Moisture content, % (m/m), max.	10	ISO 939
Total ash, % (m/m) on dry basis, max.	4	GSO ISO 928
Volatile oils, %(ml/100 g) on dry basis, min.	8	GSO ISO 6571

NOTE 1 An example of a typical gas chromatogram of the volatile oil of star anise is shown in annex C.

4.8 Packing

Star anise shall be packed in clean and sound packages made of a material which does not affect the product but which protects it from the ingress or loss of moisture and volatile matter.

5. Sampling

Sampling shall be carried out as specified in GSO ISO 948.

6. Test methods

Samples of star anise shall be analysed to ensure conformity with the requirements of this International Standard by following the methods of physical and Chemical analysis specified in 4.3 to 4.7.

7 labeling

Without prejudice to what is stated in the GSO standards mentioned in 2.6 the following information shall be labeled on the containers:

- 7.1 name of the product and the trade name;
- 7.2 name and address of the Producer or packer, or trademark;
- 7.3 batch or code number;
- 7.4 net mass;
- 7.5 producing country ;
- 7.6 destination, i.e. name of the port or the City; and, if required,
- 7.7 any other marking required by the purchaser , such as year of harvest and date of packing (if Known);
- 7.8 possibly, a reference to this Standard.



Figure 1 — Twig of star anise tree with fruit and flower

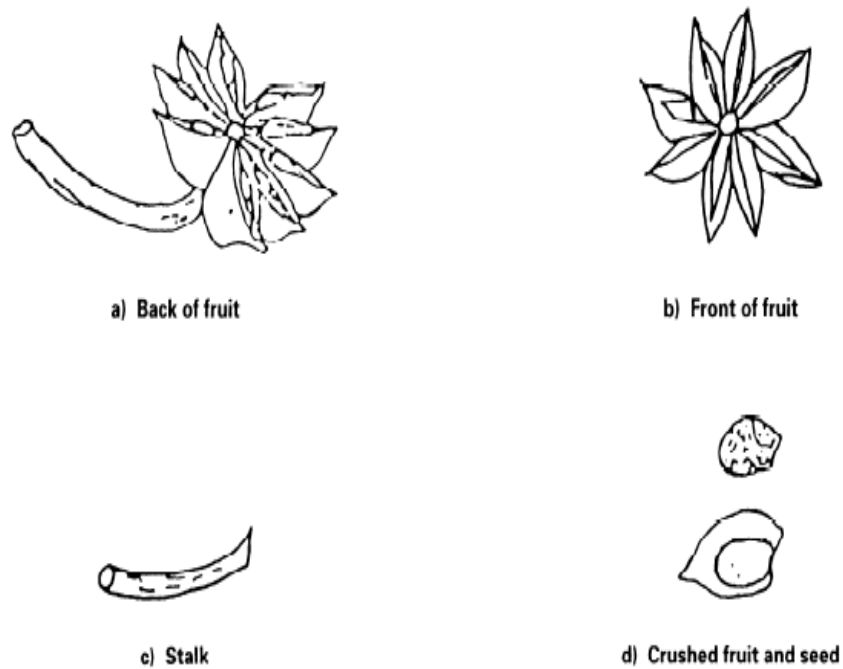


Figure 2 — Schematic details of various parts of the star anise fruit

Annex A
(normative)

**Method for the determination of the number of fruits of star anise per
100 g and the content of broken and abnormal fruits**

A. 1 Principle

Determination by counting the number of whole fruits in a 100 g Sample. Separation and weighing of the broken and abnormal fruits contained in that Sample.

A.2 Apparatus

A.2.1 Weighing balance, capable of weighing to an accuracy of ± 1 g.

A.2.2 Cloth, for loading Sample.

A.3 Number of fruits per 100 g**A.3.1 Procedure**

Weigh a 100 g Sample of star anise in accordance with the method given in GSO ISO 948. Count the number of whole fruits (see 4.5).

A.3.2 Expression of results

A whole fruit has eight follicles. Fruit containing fewer than eight follicles can be regarded as a whole fruit if the number of follicles is made up to eight with the follicles in the broken fruit. If the number of follicles left at the end of counting equals or exceeds five, these can be considered as one fruit.

A.4 Content of broken and abnormal fruits**A.4.1 Procedure**

Spread out the 100 g Sample used in A.3, then place on the cloth (A.2.2) the broken and abnormal fruits.

Weigh these and record the result.

A.4.2 Expression of results

The content of broken and abnormal fruits, expressed as a percentage by mass, is equal to

$$\frac{m_1}{m_0} \times 100$$

where

m_0 is the mass, in grams, of the Sample of star anise (A.3.1);

m_1 is the mass, in grams, of broken and abnormal fruits of star anise (A.4.1).

Annex B
(informative)

Recommendations for the storage and transport of star anise

B.1 The store room should be dry, clean and well ventilated, and free from objectionable odour.

B.2 If a Stack of star anise is temporarily stored in the open air, covering materials should be used to protect the Stack from rain and sun. The distance between the bottom of the Stack and the ground level should be more than 30 cm.

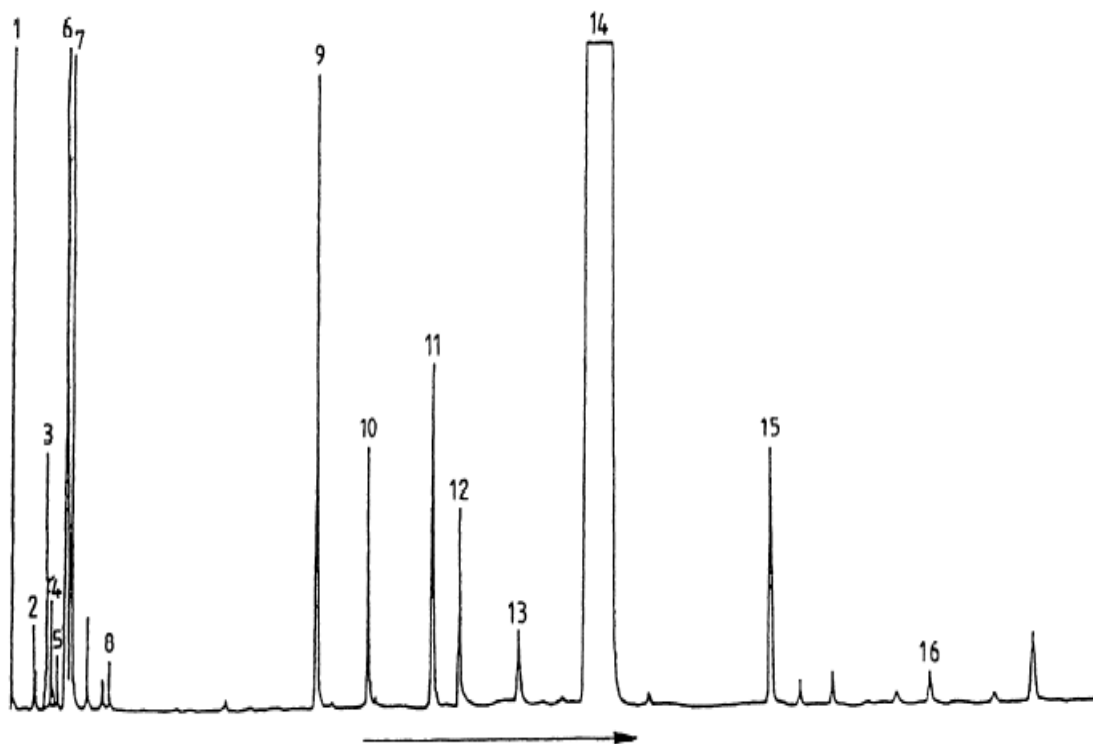
B3 . The transport carrier should be clean, dry and free from objectionable odour.

B.4 The Containers of star anise should be protected from moisture and rain during transportation.

B.5 The Containers of star anise should be carefully handled to avoid crushing.

Annex C
(informative)

**Example of the gas chromatographic analysis of the volatile oil of
star anise fruit**



Operation conditions

Column: capillary, fused silica, length 60 m, internal diameter 0,24 mm

Stationary Phase: polyethylene glycol 20 000

Oven temperature: initially 80 °C then increasing 2 °C /min up to 180 °C

Temperature of injector: 230 °C

Temperature of detector: 230 °C

Detector: flame ionization

Carrier gas: nitrogen

Volume injected: 0,2µ

Peak identification

- 1 α -Pinene
- 2 Carene
- 3 β -Pinene
- 4 α -Phellandrene
- 5 α -Terpinene
- 6 Limonene
- 7 1,8-Cineol
- 8 trans- β -Ocimene
- 9 Linalol
- 10 Terpinen-4-ol
- 11 Methylchavicol
- 12 α -Terpineol
- 13 cis-Anethol
- 14 trans-Anethol
- 15 Anisaldehyde
- 16 Methyl-iso-eugenol